Network Administration

Session-1: Introduction to Computers & Latest Trends

Introduction to Computers	Storage Media
Client Operating systems	Server Operating systems
Deep Learning	Digital currencies

Session -2: latest trends Continues

Industrial IOT	Robotics
Assisted Transportation	Virtual Reality
Cyber Security	Artificial Intelligence

Session -3: Introduction to signal processing

Analog Signal Vs Digital Signal	OSI Model and Signal Processing
Physical Layer	Introduction to Cryptography

Session-4: Data Transmission Media

Guided media and Unguided Media	Coaxial Cable, Twisted Pair
Optical Fibre	WiFi
LiFi (Light Fidality)	Satellite Communication

Session-5: Network Switching

Circuit Switching	Message Switching
Packet Switching	

Session-6: Classification of Computer Networks

LAN	WAN
MAN	CAN
WWW	

Session-7: Virtual LAN

Introduction to Vlan	Benefits of using Vlan
Create Vlan using Virtual Box	Create Vlan using Linux

Session-8: Network Topologies

Mesh Topology	Star Topology
Bus Topology	Ring Topology
Tree Topology	

Session-9: OSI Reference Model	
7 layers of OSI Model	

Session -10: TCP/IP Overview	
What is TCP/IP	How does it works
TCP/IP Packet Structure (32 bits)	TCP/IP Protocols (HTTP, HTTPS, FTP

Session-11: IP Address, Subnet and Supernet	
How the IP Address Looks Like	IP Address Class- A,B,C,D,E
Loop back address	What is subnetting and its need
What is super netting	Variable length Subnet Mask (VLSM)
Ping, Traceroot	

Session-12: IP V6	
Why is IP 6 necessary	IP 4 V/s IP 6
Features of IP 6	Routing Protocols

Session-13: Installing CentOS 6.X or Higher	
Server Operating System	FOSS
Installation Process	Basic customisation

Session 14: Resource Management	
Add/ Delete User	Group Management
Hardware management	Updates Management
Network Management	Security Management
Updates Management	Service Management

Session -15: Domain Name System (DNS)	
What is DNS, How it works	Configure DNS on windows
Configure DNS on Linux	Configure Local DNS Zone
Create forward Zone File	Create reverse Zone File

Session 16: Installing JAVA	
The current status of SUN Java in industry	Need of Java Installation
Difference between sun java and open java	Installing java on windows machine
Installing java on Linux CentOS	Java configuration

Session 17: SSH (Secure Shell) Server	

What is SSH ?	Generating a Public Key
Installing Public Key manually & Automatically	Session management in SSH
Session-18: Bandwidth Monitering	
Need of Bandwidth Monitering	Monitering using CLI
Installing IFTOP for monotering on Linux	
Session-19: Web server Installation & Configuration	
Installing Nginx server	Install Apache Web Ser
Session-20: Installing & Configuring LAMP Stack on CentOS	
Installign Linux(CentOS), Apache, MySql, Php	
Session-21: SELinux (Security Enhanced Linux) Server Management	
SELinux Architecture	Controlling SELinux
Session-22: Webmin Installation & Control	
What is webmin & its installation	Linux administration using webmin
Session-23: Network Security Fundamentals	
Need of Network Security for client & server	Common threats to your system
Session-24: Firewall Management	
Need of firewall (physical & Logical)	Firewall port setting (SSH, Telnet,Mail, FTP , WWW)
Session-25: Traffic Monitering	
Real time trafic monitering using nload	Monitering using CLI
Session-26: VPN (Virtual Private Networks)	
Why VPN	Setup VPN using SoftEther
Session-27: Certificate Management	
Why SSL	Types of SSL Certificates
Install SSL certificate	
Session -28: Network management Tools	
System Tools	Open NMS